

Abstract Submitted
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Active particles on curved surfaces YAOUEN FILY, APARNA BASKARAN, MICHAEL HAGAN, Brandeis University — Active systems have proved to be very sensitive to the geometry of their environment. This is often achieved by spending significant time at the boundary, probing its shape by gliding along it. I will discuss coarse graining the microscopic dynamics of self-propelled particles on a general curved surface to predict the way the density profile on the surface depends on its geometry. Beyond confined active particles, this formalism is a natural starting point to study objects that cannot leave the boundary at all, such as cells crawling on a curved substrate, animals running on uneven ground, or active colloids trapped at an interface.

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